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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

October 28, 1996

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

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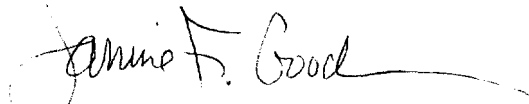
Re: In the Matter of Implementation of Section 255 of the
Telecommunications Act of 1996: Access to Telecommunications
Equipment, and Customer Premises Equipment by Persons with
Disabilities, WT Docket No. 96-198

Dear Mr. Caton:

Pursuant to Paragraph 41 of the Notice of Inquiry in the above
captioned matter, enclosed please find an original and nine copies of the
Comments of the Information Technology Industry Council. Please date stamp
the additional copy and return it with our messenger.

If you have any questions regarding this filing, please do not
hesitate to call.

Sincerely,


Janine F. Goodman

Enclosures

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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Implementation of Section 255 of the)
Telecommunications Act of 1996)
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WT Docket No. 96-198

Access to Telecommunications Services,)
Telecommunications Equipment, and)
Customer Premises Equipment By)
Persons with Disabilities)
_____)

**COMMENTS OF THE INFORMATION TECHNOLOGY
INDUSTRY COUNCIL**

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October 28, 1996

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Summary

ITI supports the Commission's efforts to implement Section 255 of the Telecommunications Act of 1996. The Commission should ensure that the guidelines adopted under this section advance the statute's goals without chilling the technological diversity and innovation that characterize information technology equipment markets and that are the best means of developing technologically advanced solutions to the problems faced by individuals with disabilities.

The Commission should adopt guidelines that give telecommunications service providers and information technology equipment manufacturers maximum flexibility to respond to the needs of individuals with disabilities. Regulatory constraints that reduce a manufacturer's resources and inhibit technological and design innovations benefit no one. Therefore, the Commission should ensure that the guidelines adopted by the Access Board are flexible and forward-looking in order to best address the needs and concerns of the disabled. To assist information technology equipment manufacturers in meeting their statutory obligations, the guidelines should focus on creating mechanisms and opportunities for dialogue between manufacturers and representatives of individuals with disabilities.

The guidelines apply to equipment used in connection with "telecommunications services," as that term is defined under the Act. The guidelines should clarify that the manufacturer who introduces a piece of

equipment into the marketplace should be responsible for ensuring compliance with Section 255. In determining whether accessibility to, and usability by, individuals with disabilities is "readily achievable," the guidelines should reflect factors such as financial resources, cost, and loss of quality. The requirement that equipment be "accessible to" and "usable by" a disabled individual should be interpreted and applied in a manner that encourages the offering of equipment types that are accessible to persons with different types of disabilities. Individuals with disabilities will be best served by a selection of information technology equipment which is as diverse as possible and addresses a variety of disabilities at the lowest consumer cost.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)

Implementation of Section 255 of the)
Telecommunications Act of 1996)

Access to Telecommunications Services,)
Telecommunications Equipment, and)
Customer Premises Equipment)
By Persons with Disabilities)

WT Docket No. 96-198

**COMMENTS OF
THE INFORMATION TECHNOLOGY INDUSTRY COUNCIL**

INTRODUCTION

The Information Technology Industry Council ("ITI") files these comments in response to the Commission's *Notice of Inquiry*¹ ("NOI") in the docket captioned above.

ITI is the leading trade association for manufacturers and vendors of computers, computing devices, office equipment and information services. ITI members manufacture a diverse range of information technology equipment targeted to the needs of individuals with disabilities. As leading manufacturers of information technology, ITI members support efforts to ensure that both the

¹ *In the Matter of Implementation of Section 255 of the Telecommunications Act of 1996, Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities*, WT Docket No. 96-198, Notice of Inquiry (rel. September 19, 1996) ("NOI").

disabled and non-disabled alike benefit from innovations in those technologies and equipment.

Section 255(e) of the Telecommunications Act of 1996 requires the Commission, in conjunction with the Architectural and Transportation Barriers Compliance Board ("Access Board"), to "develop guidelines for accessibility of telecommunications equipment and customer premises equipment." ITI supports guidelines that facilitate, and do not inhibit, the technological diversity and innovation characteristic of information technology equipment markets.

Today's information technology equipment markets are characterized by diversity, rapid technological change, and innovation. The guidelines adopted by the Access Board pursuant to Section 255 should encourage, not discourage, this diversity and innovation. Regulations or rigid guidelines that inhibit experimentation, constrain equipment design and manufacturing processes, or burden those processes economically will not benefit individuals with disabilities.

ITI supports Section 255 guidelines that would facilitate the development of processes for communication and the free flow of information between equipment manufacturers and individuals with disabilities. The guidelines should stimulate opportunities for dialogue between individuals with disabilities and equipment manufacturers regarding new technologies and the needs of the disabled, rather than attempting to control manufacturers' output or design and fabrication process. The innovation and technological advances that characterize the current equipment market and benefit all users, including

individuals with disabilities, would be stifled by inflexible, external design and manufacturing parameters.

I. THE UNREGULATED INFORMATION TECHNOLOGY EQUIPMENT MARKET PRODUCES A DIVERSE RANGE OF SPECIALIZED EQUIPMENT FOR THE DISABLED

In fully competitive markets, regulation can inhibit innovation and variety in technologies and services. The guidelines, therefore, should not inhibit the technological innovation and product diversity that characterizes the information technology equipment market.

Today's information technology equipment market produces a wide variety of products tailored to the needs of individuals with disabilities. For example, manufacturers have developed equipment to meet the particular needs of individuals with mobility impairments. Information technology equipment manufacturers have created specialized keyboards that give the user enhanced control over keystroke speed and sensitivity, improve keyboard access, and assist keying accuracy. Other keyboards have been equipped with response times which differ from standard boards, to avoid keys which either repeat letters when pressed or type double characters when the user bounces the key upon release.

Other equipment solutions, such as reading machines and closed-circuit television systems, are directed toward those with vision impairments and dyslexia. Manufacturers have introduced closed circuit television systems to enlarge text and photographs. These systems can be controlled by knobs that

are specially designed to be easy to identify and manipulate. Manufacturers have also developed reading machines to translate printed information into audible speech. These includes translation of information from the Internet, books, magazines, computer output, World Wide Web output, photocopies and facsimiles, whether the text is in italics, bold faced, underlined, or in columns, and regardless of size or design. These machines have volume and speaking knobs that are specially designed with dissimilar textures and rotation so that they are easily recognizable. Commonly used keys are enlarged. Instructions and reading are available in multiple voices and languages. Machine reading rates can be calibrated to suit the user. In addition, some machines include brightness and high-contrast features to facilitate reading by those with low vision.

Various manufacturers have introduced a range of specialized equipment that can transform personal computers into reading machines, and can convert electronic images into Braille. In addition, manufacturers have introduced interactive systems that integrate sight, sound and speech to teach reading skills to the vision and reading impaired. Equipment and software are available to enlarge the screen, convert text to speech regardless of whether the text originates from a word processing or spreadsheet program, and provide sound cues when certain control keys are activated. For the hearing impaired, manufacturers have created specialized materials that will generate screens to display a visual image when the computer generates a sound cue.

In addition to the wide range of equipment described above, some manufacturers have established special design and service groups to produce specialized equipment targeted to customers with unique equipment needs. These groups design specialized accessories for standard equipment. Some of these accessories include: products that make standard equipment more accessible to persons in wheelchairs; oversized control keys for the sight and reaching impaired, with audible alerts to signal each keystroke; talking message systems; and, for the hearing impaired, flashing lights to signal when the user's attention is required. Text telephones have revolutionized the telephone industry's ability to make telecommunications accessible to the hearing and speech impaired. These telephones can relay text messages to pagers.

Information technology equipment manufacturers have recognized that solutions for some individuals with disabilities can be inherently incompatible with the needs of other individuals with disabilities.

For example, Braille markings can be useful for certain information technology equipment that is used by individuals who are blind. However, manufacturers have discovered that Braille markings by themselves may not be sufficient for all individuals who are blind. Braille reading itself has become a less common skill as other technologies, such as voice recordings, have replaced Braille. Braille can often be difficult to read in lower temperatures due to the loss of sensitivity in fingers, which would affect the accessibility of Braille-equipped machines installed in outdoor environment. Lastly, the most common

cause of blindness in the Western hemisphere is diabetes, which also reduces sensitivity in the fingers. Manufacturers have therefore developed alternatives to be used instead of or in addition to Braille markings, such as larger characters, other raised indicators, or audio prompts.

Finally, the information technology equipment market is moving increasingly to a “plug and play” approach. Under a plug and play approach, manufacturers produce a variety of modular components that users purchase as building blocks for the configuration that best meets their needs. This approach maximizes user flexibility to customize their equipment configuration and stimulates competitive entry by producers of specialized equipment that can be plugged into standard core components. Thus, users not only have more control (and more options) with respect to their information technology needs, but they benefit from more competitive pricing. The plug and play approach is well-suited to the needs of individuals with disabilities since they can share in the scale economies of product standardization while customizing their equipment configuration to meet their preferences or unique needs.

In short, because there is no “standard” disabled person, and because what may meet the needs of one group can disadvantage another, manufacturers have developed a variety of alternative solutions. To accommodate these differences in user needs and equipment settings, the guidelines applicable to information technology equipment manufacturers must

be flexible enough to permit the production of equipment targeted to installation settings that vary and individuals with disabilities whose needs vary.²

II. THE COMMISSION'S STATUTORY MANDATE IS TO ASSIST IN THE PRODUCTION OF GUIDELINES

The NOI asserts that the Commission has "general authority to select among a variety of approaches to enforcing Section 255," including the issuance of guidelines, a policy statement, rules, or case-by-case determinations in the context of complaints.³ Section 255(e) makes clear, however, that Congress contemplated the promulgation of guidelines only, and not rules or regulations. The statute states that the Access Board "shall develop guidelines...in conjunction with the Commission. The Board shall review and update the guidelines periodically."⁴ Accordingly, under the authority of Section 255, the Commission may only participate in a process to develop guidelines.

The Commission should not adopt regulations in addition to, or in lieu of, Access Board guidelines. Regulations that establish static specifications of equipment requirements would be inherently incompatible with the rapid technological change characteristic of the information technology equipment market. In a dynamic industry, regulations would only hinder manufacturers' and

² Some of the products that are particularly useful to individuals with disabilities require the deployment of high bandwidth services (e.g., video conferencing) to more locations than local exchange carriers currently are willing to serve with such services. Accordingly, the Commission's and the Access Board's deliberations should include consideration of the regulatory and marketplace impediments to wider, competitive deployment of these services.

³ NOI at ¶ 7.

⁴ *Telecommunications Act of 1996*, 47 U.S.C. § 255(e) (emphasis added).

service providers' abilities and incentives to experiment and develop solutions to the needs of individuals with disabilities. The guidelines should be as flexible as the marketplace; regulations would lock in equipment specifications that would otherwise have a limited "shelf life," given the pace of technological change in the equipment marketplace.

While regulations would be inappropriate, the Commission nevertheless has a valuable role to play in the development of guidelines. The Commission should participate actively in the Access Board's development of guidelines to ensure that the guidelines are informed by the Commission's unique telecommunications expertise.

In particular, the Commission should assist in the development of mechanisms and opportunities for exchanging information between representatives of individuals with disabilities and the manufacturing community. The guidelines should emphasize procedures for interaction that can be adapted to technological and marketplace changes, not prescriptions or technical standards which can quickly become obsolete. The guidelines could, for example, identify existing consultative mechanisms and create new ones by which individuals with disabilities can communicate their needs to the manufacturing community and by which manufacturers can identify or solicit information about the needs of individuals with disabilities. The Commission could establish a clearinghouse to collect information from manufacturers concerning specialized equipment available for individuals with disabilities and

to collect information from individuals with disabilities regarding their unmet needs or problems with existing equipment.

III. APPLICABILITY OF SECTION 255

A. Equipment

Section 255 applies to “telecommunications equipment” or equipment used as “customer premises equipment” (“CPE”) within the meaning of the Act.

“Telecommunications equipment” is defined by the Act as “equipment other than CPE, used by a carrier to provide telecommunications services...”⁵ CPE is defined as “equipment employed on the premises of a person (other than a carrier) to originate, route, or terminate telecommunications.”⁶ The Act defines “telecommunications” to mean “the transmission. . .of information. . .without change in the form or content of the information as sent and received.”⁷ This definition excludes information or enhanced services.⁸ Therefore, equipment used solely in connection with information or enhanced services, that is not also used to originate, route or terminate telecommunications within the meaning of the Act, is not subject to the guidelines developed pursuant to Section 255.

B. Manufacturers

The NOI seeks comments regarding the allocation of responsibility for compliance with Section 255 guidelines when multiple manufacturers contribute

⁵ 47 U.S.C. § 153(45).

⁶ 47 U.S.C. § 153(14).

⁷ 47 U.S.C. § 153(46).

⁸ 47 C.F.R. § 64.702(a).

components to a single piece of equipment or when manufacturers license their designs to other companies for production. The guidelines should apply to the entity best positioned to ensure that a piece of equipment is in compliance at the time that the equipment is introduced into the marketplace. Accordingly, the manufacturer for purposes of Section 255 compliance should be the party who offers the equipment for sale to the public.

IV. STATUTORY STANDARDS

A. "Readily achievable"

Section 255 requires manufacturers of covered equipment to ensure that their equipment is accessible and usable by individuals with disabilities, if "readily achievable." The NOI properly recognizes that the rapid pace of market and technological developments in the equipment and services markets makes what is "readily achievable" an "ever-changing dynamic."⁹ Moreover, the NOI observes that Section 255 guidelines should apply the "readily achievable" standard "in a way that will take advantage of the market and technological developments, without constraining competitive innovation."¹⁰ These objectives are best served by flexible guidelines that do not over-specify equipment characteristics.

The Americans with Disabilities Act of 1990 ("ADA")¹¹ defines "readily achievable" to mean "easily accomplishable" or "able to be carried out without

⁹ NOI at ¶ 16.

¹⁰ *Id.*

¹¹ *Americans with Disabilities Act of 1990*, 42 U.S.C. § 12101, *et seq.*

much difficulty or expense,"¹² based on such factors as cost and the financial resources of the covered entity. In the rapidly changing technological context of information technology equipment, "cost" includes not only compliance costs for the service provider or equipment manufacturer, but the opportunity costs to individuals with disabilities resulting from compliance costs. If the guidelines are rigid or overly detailed, they can impose compliance costs for one piece of equipment or type of equipment that would force manufacturers to forego development of technological alternatives that might better meet the needs of individuals with disabilities. Similarly, compliance with detailed requirements could compromise the quality of equipment, further disadvantaging individuals with disabilities.

In order to ensure that individuals with disabilities have the same opportunities to benefit from technological innovation as other customers, the guidelines must give manufacturers the economic flexibility to create new equipment, with superior quality and more advanced capabilities. The guidelines should therefore avoid imposing significant compliance costs so that individuals with disabilities will not be denied access de facto by economic constraints.

Similarly, the guidelines should avoid requirements that would impose uniform requirements on all equipment regardless of whether the purchaser is an individual with a disability. Doing so would significantly increase the costs of

¹²

42 U.S.C. § 12181(9).

compliance. Instead, the guidelines must permit manufacturers to produce both equipment customized to the needs of individuals with varying disabilities and equipment suitable for individuals with no disabilities, so that manufacturing costs do not unnecessarily impede access by the disabled to equipment.

The ADA also requires consideration of an equipment provider's financial resources in determining what requirements are "readily achievable." The NOI seeks comment regarding whether to take into account the resources of a parent corporation and its subsidiaries.¹³ The guidelines should measure financial resources consistently with the capital structure of, and resources available to, the manufacturing unit developing the equipment at issue. The NOI's exclusive focus on a parent/subsidiary structure does not reflect the corporate divisions and financial structures commonly used by equipment manufacturers in the marketplace. Thus, manufacturing units or product teams with budget authority within a manufacturing company should receive the same treatment under the guidelines as subsidiaries with corporate parents. For both kinds of organizational structures, the guidelines should take into account only the financial resources directly controlled by the organizational unit designing or producing the relevant equipment. The guidelines should not ignore the practical financial realities of the marketplace since they determine whether accessibility and usability for individuals with disabilities is "readily achievable" by the manufacturing entity. Ignoring those marketplace realities would

¹³ NOI ¶ 19.

discourage new entry by existing manufacturers of unrelated products who might otherwise expand, innovate, or experiment with new lines of equipment or technologies. Discouraging new entry or expansion would reduce the technological options and range of vendors available to individuals with disabilities.

The NOI also observes that foreign and domestic markets may have regulatory requirements that differ and seeks comment regarding how the varying resources and regulatory requirements of subject companies should be recognized. The guidelines should preserve a manufacturer's ability to participate in both domestic and international markets and accommodate variations in applicable standards. Maximizing the marketability of equipment increases demand which keeps prices down and, in turn, enhances access for all users, including individuals with disabilities. The guidelines should capitalize on the scale and scope economies which may result from participating in domestic and global markets and avoid specifications or requirements that would impede or increase the costs of producing equipment for global markets.

B. "Accessible to" and "usable by"

Section 255 requires that equipment be "designed, developed, and fabricated to be accessible to and usable by individuals with disabilities, if readily achievable."¹⁴ The interests of individuals with disabilities will be best served by an interpretation of this standard that permits equipment markets to

¹⁴ 47 U.S.C. § 255(b).

produce the widest possible diversity and variety of equipment at the lowest possible price. A market with these characteristics will accommodate a broad array of installations, settings, and configurations with other equipment. The guidelines must not over-specify equipment characteristics based on the present state of knowledge and technology since both will quickly become outdated in the equipment market.

The NOI seeks comment on whether this standard requires a manufacturer or service provider to ensure that each of its telecommunications equipment, CPE, or service offerings is accessible to persons with various types of disabilities. The guidelines should permit the widest possible range of options targeted to different needs. The Commission should not foreclose equipment solutions for some disabilities that may be incompatible with other solutions for different disabilities, by requiring that a single piece of equipment be accessible to persons with different disabilities. Moreover, the Guidelines should encourage the proliferation of equipment alternatives for individuals with disabilities so that individual companies are free to concentrate their expertise on particular needs of individuals with particular disabilities. By enabling companies to specialize in manufacturing equipment for certain types of disabilities, the guidelines will stimulate specialization which ensures that individuals with disabilities benefit immediately and to the maximum extent from technological advances.

C. Compatibility

Section 255 provides that whenever its requirements are not “readily achievable,” equipment manufacturers and service providers must ensure that their equipment and services are “compatible” with existing peripheral devices or specialized CPE, if readily achievable. The guidelines can best meet this statutory mandate in two ways: (1) by preserving the flexibility of manufacturers and service providers to experiment and innovate in response to technological changes and advances in their own equipment and in the peripheral devices and specialized CPE commonly used by individuals with disabilities; and (2) by establishing mechanisms and opportunities for dialogue and the exchange of information between representatives of the manufacturing community and individuals with disabilities, as discussed above in Section II.

For enforcement purposes, the guidelines should establish a market-wide view of whether a manufacturer has met its obligation to make equipment accessible, usable, or compatible with peripheral products. The guidelines should not suggest that every company’s products must meet the needs of every disabled individual. Nor should they suggest that products be compatible with every type of peripheral equipment or specialized CPE. As described in Section I, above, the information technology equipment market is moving towards a “plug and play” approach which maximizes user choice and the ability of individuals with disabilities to customize a system configuration best suited to their individual needs and preferences. The guidelines should reflect this

marketplace paradigm and support industry trends towards interoperable component equipment and user-customized system options.

So long as the market as a whole is producing equipment accessible to and usable by individuals with particular disabilities, when readily achievable, the policies served by Section 255 are vindicated, regardless of whether all companies are producing the same equipment. Accordingly, the guidelines must specify that enforcement actions against individual companies will take into account whether other equipment in the marketplace is meeting the needs of individuals with disabilities.

CONCLUSION

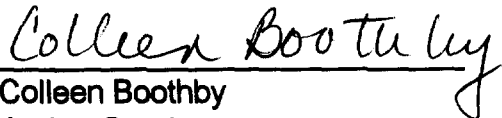
ITI supports the Commission's efforts to implement the requirements of Section 255. To adequately address the needs of individuals with disabilities, the guidelines adopted under Section 255 should support technological diversity

and innovation in the equipment marketplace and facilitate communication
between manufacturers and individuals with disabilities.

Respectfully submitted,

Information Technology Industry
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October 28, 1996

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Certificate of Service

I, Noel Manalo, hereby certify that true and correct copies of the preceding Comments of the Information Technology Industry Council in the Matter of Implementation of Section 255 of the Telecommunications Act of 1996: Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities, WT Docket No. 96-198, were served this 28th day of October, 1996 via hand delivery upon the following:

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October 28, 1996

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